

Remarks

The present Amendment is submitted in response to the final Office Action dated December 8, 2009.

In the final Office Action, the Examiner restricts new claims 23-25 under 37 CFR 1.142(b); MPEP §821.03, rejects claims 1-5, 11-19 under 35 USC §112, second paragraph, rejects claims 1-3, 9, 11-21 as anticipated by Izumisawa, and rejects claims 4, 5 and 22 under 35 USC §103(a) as obvious over Izumisawa.

Restriction

Applicants hereby elect claims 23-25, in response to the restriction requirement, with traverse. That is, Applicants request reconsideration and withdrawal of the constructive election/restriction of claims 23-25, in view of the following remarks.

The final Office Action asserts that claims 23-25 are directed to an invention that is independent or distinct from the invention as originally claimed in that claims 23-15 are drawn to a tool having a gripping surface with a housing and wherein an outer surface of the conduit forms the gripping surface.

As originally claimed, the invention is defined as a hand-held power tool, in particular a sander, having a housing (10) and a motor (12) located in the housing (10), by way of which motor a driven shaft (16), extending from a face end (14) of the housing (10), is drivable, and having a suction conduit (18),

extending at least partway through the housing (10), characterized in that the suction conduit (18) discharges at the face end (14).

Independent claim 23 calls out an inventive hand-held power tool comprising a housing (10), a motor (12) located in housing (10) by which a driven shaft (16), extending from a face end (14) of the housing (10) is drivable and a suction conduit (18) extending at least partway through the housing (10) that is configured to operate as an intake at the face end (14) of the housing (10).

These features are found in the invention as originally claimed before claims 23-25 were presented.

While claim 23 further qualifies that the housing (10) forms a gripping surface that serves as a gripping part for handling the power tool and that the suction conduit (18) extends at least through a region of the housing (10) that is surrounded by the gripping surface, these further features still relate to the housing (10) and suction conduit (18), as originally claimed.

Applicants respectfully assert, therefore, that claims 23-25 merely call out a species of original independent claim 1, as first filed on April 4, 2006, and request withdrawal of the constructive election and that the Examiner consider the merits of claims 23-25.

35 USC §112

To support the rejection of claims 1-5 and 11-19 under 35 USC §112, second paragraph, the Examiner asserts that it is unclear how the radial extent of

the annular gap of the intake of suction conduit (18) is smaller than the diameter of the driven shaft (16).

In response, applicants have amended independent claim 1 as shown above and respectfully assert that the skilled artisan would readily understand how the radial extent of the annular gap of the intake of suction conduit (18) can be smaller than the diameter of the driven shaft (16), as amended.

In more detail, an annular gap is a recess with an annular shape, which annular gap or recess with annular shape has an inner diameter and an outer diameter. The inner and outer diameter of the annular gap together defines the extent of the annular gap. That is, a radial extent exists between the inner and outer diameter that defines the annular gap or shape.

Claim 1 as amended defines that the suction conduit (18) operates as an intake with an annular gap on the face end (14) of the housing (10) between the bearing flange (32) of the driven shaft (16) and the housing (10) in a plane perpendicular to the longitudinal direction of the driven shaft (16), and that the annular gap includes a radial extent perpendicular to the longitudinal direction of the driven shaft (16) that is smaller than a diameter of the driven shaft (16). As amended, claim 1 now makes clear that driven shaft (16) does not pass through the annular gap, so that the annular extent of the annular gap may be smaller than the shaft diameter.

Applicants respectfully request withdrawal of the rejection of claims 1-5 and 11-19 under 35 USC §112, second paragraph, therefore.

35 USC §102

In response to the rejection of claims 1-3, 9 and 11-21 under 35 USC §102(b) over Izumisawa, applicants have amended independent claims 1 and 9, as shown above in the Listing of Claims

Claim 1 as amended in pertinent part now requires that suction conduit (18) extends in the longitudinal direction of the driven shaft (16) past a bearing flange (32) of the driven shaft (16) to an outside of the housing (10), which suction conduit (18) operates as an intake and is shaped as an annular gap on the face end (14) of the housing (10) between the bearing flange (32) of the driven shaft (16) and the housing (10) in a plane perpendicular to the longitudinal direction of the driven shaft (16). As already mentioned, the annular gap includes a radial extent perpendicular to the longitudinal direction of the driven shaft (16), and wherein the radial extent of the annular gap is smaller than a diameter of the driven shaft (16).

Support for the new features of claim 1 is found in Figs. 2 and 3, and at page 5, lines 6-10 of the Specification, as filed.

Claim 9 as amended in pertinent part now defines that the first suction conduit (18) and the second suction conduit (20) are coupled via a region (26) that is open in a radial direction towards the outside of the hand-held power tool and the tool receptacle, wherein the radial direction is perpendicular to the longitudinal direction of the driven shaft (16), wherein the region (26) extends between the face end (14) of the housing (10) and a top side (52) of the tool

receptacle and wherein the top side (52) of the tool receptacle is oriented in an installed state of the tool receptacle towards the face end of the housing (10).

Support for the new features of amended claim 9 is found in Figs. 2 and 3, and partly in previously presented claim 21, now cancelled.

Izumisawa, as distinguished, discloses an abrading tool with an upper housing 1, a lower housing 35, having a drive means (motor) located in the upper housing for driving a spindle 25. Spindle 25 extends through upper housing 1, into and through a lower housing 35. At one end of lower housing 35, a hose 43 is connected to an exhaust duct 42, the exhaust duct 42 extending from a chamber 41 (Fig. 1, col. 2, lines 55-59; col. 4, lines 25-32; 42-60) for aspirating abraded material.

Izumisawa's chamber 41 operates as an intake and extends from an open area at an underside of housing 1, 35 to an exhaust duct 42 and out of the housing through hose 43 (col. 4, lines 61-col. 5, line 4; Fig. 1). The intake is constructed as an annular gap in a plane perpendicular to a longitudinal direction of the driven shaft (25) between the driven shaft (25) and the lower housing (35). Such an intake area comprising chamber 41 overlaps almost the entire abrading pad 28, whereby particles and dust may be aspirated from a wide area. The annular gap includes a radial extent that is greater than the diameter of the driven shaft. But in order to achieve a high suction efficiency, i.e., a sufficiently high speed of air flow to effectively aspirate using such an annular gap and corresponding intake area, Izumisawa requires a very high amount of energy.

Izumisawa does not teach or suggest a suction conduit (18) operating as an intake shaped as an annular gap on the face end (14) of the housing (10) between the bearing flange (32) of the driven shaft (16) and the housing (10) in a plane perpendicular to the longitudinal direction of the driven shaft (16), wherein the annular gap includes a radial extent perpendicular to the longitudinal direction of the driven shaft (16) that is smaller than a diameter of the driven shaft (16), thereby ensuring that only a low suction power is required to aspirate particles and dust during operation of the invention as claimed. This provides that electrical energy is economized and operational cost savings thereby realized.

Neither the feature nor its benefit is taught or suggested by Izumisawa. Nor is there any teaching or suggestion in Izumisawa to operate with such a radial intake having an annular gap that is smaller than a diameter of the driven shaft, or to otherwise realize a suction conduit with an optimized suction capability. Hence, claim 1, and claims 2-5 and 11-19 that depend therefrom are patentable in view of Izumisawa.

Nor does Izumisawa teach or suggest the invention of amended independent claim 9, including that the first suction conduit (18) and the second suction conduit (20) are coupled via a region (26) that is open in a radial direction towards the outside of the hand-held power tool and the tool receptacle and extends between the face end (14) of the housing (10) and a top side (52) of the tool receptacle, wherein the top side (52) of the tool receptacle is oriented in an installed state of the tool receptacle towards the face end of the housing (10).

Izumisawa discloses that region 47 is open in a downward direction, forming a point angle with the longitudinal direction of the driven shaft. Izumisawa's region 47 is not oriented in the radial direction and is not located between an open area at the underside of the lower housing 35 and a top side of the tool receptacle. Hence, Izumisawa's openings 47 are only able to capture particles close to a surface being operated upon and not particles in the region of the entire circumference, which are more likely to be dispersed around the hand-held power tool and inconvenience the operator, impeding performance.

Applicants' invention as claimed is configured to overcome just this type of shortcoming. That is, the radial orientation of amended independent claim 9 has the advantage that dust particles which are not captured directly via openings 50 (See Fig. 2) are dispersed around the power tool along its circumference, and readily captured before they reach a face of an operator of the tool.

In view of the fact that amended claims 1 and 9 recite these limitations, which Izumisawa does not, Izumisawa does not anticipate the inventions of claims 1 and 9.

Applicants further respectfully assert that Izumisawa is not a proper reference under 35 USC §102 pursuant to the guidelines set forth in the last paragraph of MPEP §2131, where it is stated that “a claim is anticipated only if each and every element as set forth in the claims is not found, either expressly or inherently described, in a single prior art reference,” and that “the identical invention must be shown in as complete detail as is contained in the ... claim.”

Independent claims 1 and 9 are therefore patentable under 35 USC §102(b) over Izumisawa. Claims 2, 3 and 11-19, which depend from claim 1, and claim 20 which depends from claim 9 are patentable under section 102(b) over Izumisawa for at least the same reasons.


35 USC §103

In response to the rejection of claims 4, 5 and 22 under 35 USC §103(a) over Izumisawa, applicants respectfully assert that because claims 4 and 5 depend from amended claim 1, and claim 22 depends from amended claim 9, these claims are patentable under section 103(a) over Izumisawa for at least the reasons set forth for the patentability of amended claims 1 and 9. Applicants, therefore, respectfully request withdrawal of the rejection of claims 4, 5 and 22 over Izumisawa under section 103(a).

Conclusion

Accordingly, the application as amended is believed to be in condition for allowance. Action to this end is courteously solicited. However, should the Examiner have any further comments or suggestions, the undersigned would very much welcome a telephone call in order to discuss appropriate claim language that will place the application in condition for allowance.

Respectfully submitted,



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